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Transformational Leadership Among Midshipmen
Leaders at the United States Naval Academy

Leanne Atwater and Francis J. Yammarino

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BLOCK 19 (Continued)

USNA academic and military performance and performance grades of the midshipmen, while superiors' ratings of transactional leadership were associated with selection into the midshipmen leadership structure. (S) [initials]

Transformational Leadership Among Midshipmen Leaders
at the United States Naval Academy

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Abstract

The purpose of the present study was to assess the relationships among transformational leadership and leader success in a sample of midshipmen at the U.S. Naval Academy (USNA). Data about 107 midshipmen (squad leaders) were collected from their 1,235 plebe subordinates, their company (Navy and Marine Corps) officers, and USNA records. Results of this study indicate that (1) transformational leadership and outcomes (extra effort by subordinates, satisfaction with and effectiveness of the focal leaders) as rated by plebes (subordinates) were highly related; (2) transformational leadership and outcomes as rated by company officers (superiors) were strongly associated; (3) high school class rank and verbal and math aptitude were predictive of academic and military success at USNA; (4) academic and military success were associated with USNA performance (e.g., performance grade, conduct, lack of demerits); (5) participation in varsity sports was related to being seen as a transformational leader; (6) superiors' ratings of outcomes were associated with subordinates' ratings of transformational but not transactional leadership; and (7) superiors' ratings of transformational leadership were related to USNA academic and military performance and performance grades of the midshipmen, while superiors' ratings of transactional leadership were associated with selection into the midshipmen leadership structure.

Transformational Leadership Among Midshipmen Leaders
at the United States Naval Academy

Numerous studies conducted by Bass and others (e.g., Bass, 1985; Bass & Avolio, 1989; Yammarino & Bass, 1989; Hater & Bass, 1988) have demonstrated the usefulness of a model of transformational leadership in predicting leader success. Transformational leadership is seen when leaders stimulate interest among subordinates in their work, generate awareness of the mission of the group, and motivate subordinates to look beyond their own interests toward those that will benefit the group. Transformational leaders motivate subordinates to do more than they originally intended and often even more than they thought possible.

Transformational leadership is an expansion of transactional leadership which emphasizes the transaction or exchange that takes place between leaders and their subordinates. This exchange is based on the leader telling subordinates what is required and specifying the conditions and rewards subordinates will receive if they fulfill the requirements. Transformational leaders do more than this. They achieve superior results in one or more of the following ways: (1) They are charismatic as perceived by their followers. Their charisma endows them with referent power, respect and trust from subordinates, and an ability to arouse and inspire those around them. (2) They express individualized consideration for subordinates. The leader pays special attention to each subordinate's individual needs, acting as a coach or mentor to subordinates. (3) The leader arouses in subordinates an awareness of their own abilities and creativity in approaching new situations and in solving problems.

Recent work (Yammarino & Bass, 1989) applied the transformational leadership model to a sample of Naval Officers in the surface community who were graduates of the U. S. Naval Academy (USNA). Results indicated that transformational as compared to transactional leadership was more strongly related to measures of officer performance and effectiveness. Results also suggested that information used to make decisions regarding admission to the Academy was not predictive of transformational leadership nor of performance in the fleet years later.

The present study extended this earlier work by assessing the leadership behavior of midshipmen leaders at USNA prior to graduating and entering the fleet. Leader behavior, leader performance, and potential predictors of leader behavior were measured. The overall goal of this study was to test the model of transformational leadership in identifying leadership potential and success among Naval Academy midshipmen. Can transformational leadership be identified in this young leader population? If so, are transformational leadership behaviors related to leader success measures at USNA as they were in the fleet? In addition, it was of interest to investigate whether admissions predictors which were developed to predict success at USNA (i.e., graduation) were predictive of leader behavior and/or performance at USNA.

Background

House and Singh (1987), in a review of the leadership literature, indicate that the four most frequently cited theories of leadership were Fiedler's contingency theory, the vertical dyadic linkage theory, Vroom-Yetton's situational decision theory, and House's path-goal theory. While each of these theories certainly makes a contribution to understanding the

complex phenomenon called "leadership," their applicability to uncertain, complex military leadership situations where life and death may be involved is questionable. These theories would have a difficult time explaining why subordinates would follow a leader up a hill into enemy fire. There is no exchange of rewards, the leader and the situation are already prescribed, and the decision is not a participative one.

The theories with the most potential to explain these unique military leadership situations are the charismatic or transformational leadership theories (e.g., Bass, 1985). These theories, rather than concentrating on the effects of leadership upon performance, satisfaction, and cognitions, focus on followers' emotional responses such as trust and confidence in the leader and their motivation to perform above and beyond the call of duty. This focus is consistent with the military's understanding of "true leadership" as opposed to management. In the words of the Admiral Trost, the Chief of Naval Operations:

"...good leadership must provide that spark of relevance that foretells success. Human beings respond to clear direction and they accomplish tasks under good management. But they will give their all to the leader who stirs their blood, who shows them how unique and remarkable they are, as well as the value of their contributions" (Trost, 1989, p. 4).

This quote speaks of transactional leadership providing clear direction and transformational leadership stirring the blood and valuing subordinates' contributions. This description of "true military leadership" is, in essence, transformational leadership. Transformational leaders move their

subordinates to go far beyond their own self-interests to work for the good of the group.

The question arises as to how transformational leaders are developed. Is a person born with charismatic, inspiring traits or does he/she become transformational as part of his/her experiences in interacting with other individuals? Bass (1985), in studies of transformational leadership in both the civilian and military sectors, found that some degrees of transformational leadership existed at all levels in the management hierarchy, including the rank of Lieutenant in the Army.

In the present study, it was of interest to determine whether transformational leadership characteristics were observable in college-age men and women in a highly regimented leadership training environment such as the Naval Academy. Since earlier work demonstrated that transformational leaders existed among USNA graduates 8 to 10 years into their service, were those with transformational potential behaving like transformational leaders before graduation? If so, to what extent, and are there variables which might help identify those with the greatest potential of becoming transformational leaders?

Method

Sample

The focal leaders in this study were 99 male and 8 female midshipmen selected to serve as Plebe Summer squad leaders during the first three weeks of plebe indoctrination. Plebe Summer squad leaders are chosen from members of the incoming first and second class midshipmen (seniors and juniors) on the basis of their demonstrated performance and leadership abilities. They spend three weeks of their summer indoctrinating the incoming plebes

(freshmen) into life at USNA. As part of this indoctrination process, the squad leaders teach plebes to dress, march, salute, deal with pressure, and become members of the U.S. Navy. Squad leaders, in essence, transform civilians into members of a highly regimented military culture.

Each squad leader is in charge of 11 to 13 plebes. The squad leaders spend almost all of their time during the assigned three weeks with the plebes. The plebes assert that by the end of three weeks they know their squad leader very well.

The plebes (subordinates) reporting to each squad leader also served as participants in the study. The subordinate sample consisted of 1235 plebes (89% male) who completed questionnaires about their squad leaders on the last day of the three week indoctrination period. The plebes then rotated into a new plebe summer squad with an entirely new group of squad leaders to complete the final three-week indoctrination period. The 107 squad leaders then either left USNA for their summer cruise or began their next summer assignment.

Eleven Company Officers, Navy Lieutenants or Marine Corps Captains assigned to USNA for 2 to 3 years, in charge of the summer squads also participated in the study. They rated the squad leaders in their company on their leadership performance.

Descriptive information was obtained from members of each participant group and can be summarized as follows:

1. The squad leaders' ages ranged from 19 to 22. Fifty seven percent were about to enter their senior (first class) year; the remaining 43% were about to enter their junior (second class) year. Seventy-four percent of the squad leaders were math, science, or engineering majors. Twenty-six

percent were humanities or social science majors. Forty-two percent indicated that their first choice for service selection would be air, 20% said submarines, 15% stated surface, 12% preferred Marines, and 11% responded with "other."

2. Plebes were generally between 18 and 20 years old; only 4% were over 20. After three weeks of indoctrination, 96% were committed to graduating from USNA.

3. Seventy-four percent of the Company Officers were USNA graduates. Fifty-two percent of the Company Officers had known the midshipman they were evaluating before they became plebe summer squad leaders.

Measures

Predictors. Information used in making decisions about USNA selection is obtained from each midshipman candidate when he/she applies to the Academy. Much of this data is used in assessing a candidate's potential success as a midshipman. This data is then analyzed using formulas generated by researchers at the Navy Personnel Research and Development Center (NPRDC), and an overall graduation potential score called the Candidate Multiple is created (Alf, Neumann, & Matson, 1988). The Candidate Multiple is used by the Admissions Board as a starting point in evaluating applicants.

The admissions variables used in this study include:

Scholastic Aptitude Tests - SAT/ACT Math and SAT/ACT Verbal scores.

Strong-Campbell Interest Inventory (SCII) - Two subscales created by NPRDC from items on the Strong-Campbell Interest Inventory (Campbell, 1974) which indicate engineering interests

and career retention potential.

Recommendations (RECS) - A measure of school officials' estimates of the candidate's potential as a Naval Officer. (This measure can range from 0 to 1000 and is based on evaluations of the candidate on physical abilities, academic potential, interpersonal relations, personal conduct, and participation in extracurricular activities.)

Extra Curricular Activities (ECAs) - A measure of extracurricular activities which can range from 300 to 800 and indicates level of participation in athletic and nonathletic activities in high school as reported by the candidate. (Because this is a self-report measure there have been concerns about its reliability.)

High School Rank (HS RANK) - The candidate's high school class rank (a standardized score, range = 200 to 800).

Performance Measures. Military performance is measured in a variety of ways at various times throughout a midshipman's training at the Academy.

The measures used in this study include:

Military performance grade - Given to each midshipman by the Company Officer reflecting performance in professional, military, and physical education courses as well as summer cruise performance, annual professional competency exams, and conduct scores. (This grade also incorporates a subjective component on the part of the Company Officer in consultation with the midshipmen leaders as to the midshipman's willingness and ability to lead other midshipmen, to take on responsibilities, to follow-

through on assignments, and to follow the rules.) Each midshipman is graded within his/her class within his/her company. Grades range from A (4.0) to F (0.0). Thirty-five percent of the midshipmen in this sample had performance grades (averaged across semesters) between 2.0 and 3.0. Sixty-five percent had averaged performance grades between 3.1 and 4.0.

Conduct grade - Ability of the midshipmen to follow the rules and stay out of trouble. Grades range from A to F and are assigned by the Company Officer. The squad leaders in this sample all had average conduct grades between 3.0 and 4.0.

Demerits - Punishments levied for breaking the rules; the more severe the mistake, the more demerits given (usually associated with days of restriction). Guidelines for days of restriction for a particular offense are provided in the midshipman regulations. Fifty-eight percent of the squad leaders in the sample had acquired a small number of demerits.

Number and type of leadership (striper) positions held - Brigade of midshipmen have their own leadership structure, paralleling the formal leadership structure in the fleet. Beginning in their sophomore (third class) year, midshipmen can hold administrative "striper" positions such as company conduct officer. (Stripers are called such because midshipmen wear numbers of stripes on their uniforms corresponding to their midshipman rank.) Or, they can hold leadership "striper" positions in one of six ranks ranging from squad leader (in charge of 12 midshipmen) to the Brigade commander who is the

senior ranking midshipmen for the entire Brigade of 4500 midshipmen. The striper positions were ranked in terms of their level of leadership responsibility from 1 to 7 where 1 = administrative job, 2 = squad leader, through 7 = Brigade Commander. The position scores were summed for the squad leaders; i.e., if a midshipman had been a squad leader and had held an administrative position, his/her striper score was 3. In general, stripers are selected by the Company Officers with input from the other midshipman stripers.

ECAs (Extracurricular Activities) - Also included as part of the performance measures were the number of ECAs in which the midshipmen were engaged per semester at the Academy.

Varsity Sports - Number of varsity sports a midshipman played each semester at the Academy.

With the exception of leadership positions held, which were totalled across semesters, the performance measures were averaged across semesters from first semester to the semester before the midshipmen became plebe summer squad leaders.

USNA Success Measures. Two traditionally used measures of USNA success were obtained for the squad leaders in this sample. These measures were Academic Quality Point Rating (AQPR) and Military Quality Point Rating (MQPR).

AQPR - AQPR is analogous to a cumulative grade point average based on grades obtained and quality points given for different classes taken.

MQPR - MQPR is computed by aggregating weighted scores for a

midshipman's military and professional accomplishments including performance in professional and physical education courses, professional competency exams, military performance and conduct grades.

Leadership Measures. The leadership data were collected at the end of the third week of plebe indoctrination in August of 1988. A version of the Multifactor Leadership Questionnaire (MLQ), described in detail by Bass (1985) and Bass and Avolio (1989), was modified slightly for this population. Squad leaders (focal leaders) completed questionnaires primarily describing their perceptions of their own leadership behavior. Plebes completed a subordinate form of the questionnaire about their squad leader at the end of the first 3-week indoctrination period, immediately after their squad leader had left USNA for summer cruise. Company Officers filled out leadership questionnaires describing the leader behavior of the squad leaders they were in charge of and evaluating their perceptions of the squad leader's effectiveness. Respondents completing the questionnaires indicated the frequency of various leadership behaviors observed (or in the case of self assessments, performed). Items were rated on a five-point format ranging from 0 = "not at all" to 4 = "frequently if not always." Some items also asked for the respondents' reactions to the focal leader and were rated on the same frequency scale.

Nine leadership scales were formed by averaging the responses to the items as described by Yammarino and Bass (1989). Four scales measured transformational leadership, four scales measured transactional leadership, and one scale measured non-leadership. The scales and a sample item from each scale (subordinate form) were:

Transformational Leadership:

1. Charisma (LCH) - (6 items) - I am ready to trust him/her to overcome any obstacle.
2. Individualized Consideration (LIC) - (6 items) - Gives personal attention to me when necessary.
3. Intellectual Stimulation (LIS) - (6 items) - Shows me how to think about problems in new ways.
4. Inspirational Leadership (LIL) - (6 items) - Provides vision of what lies ahead.

Transactional Leadership:

5. Contingent Promises (LCP) - (3 items) - Talks about special rewards for good work.
6. Contingent Rewards (LCR) - (3 items) - Personally pays me a compliment when I do good work.
7. Management by Exception-Active (LMBE-A) - (4 items) - Would reprimand me if my work was below standard.
8. Management by Exception-Passive (LMBE-P) - (4 items) - Shows he/she is a firm believer in 'if it ain't broken, don't fix it.'

Non-Leadership:

9. Laissez-faire (LLF) - (6 items) - However I do my job is OK with him/her.

Outcomes as Measured by MLQ. A number of items on the MLQ were designed to measure perceptions of leader effectiveness, degree of subordinate effort, and satisfaction with the leader. Items comprising each of these scales were averaged to yield a scale score from 0 to 4. These outcome measures were assessed separately in terms of superior, subordinate,

and self perceptions. The three scales were:

1. Leader effectiveness (OEF) - Four items measured the effectiveness of the focal leader in terms of his/her overall work, ability to represent his/her squad with higher authority, success in meeting job-related needs of subordinates, and success in meeting requirements of the command. Response categories ranged from 0 = "not effective" to 4 = "extremely effective."
2. Satisfaction (OST) - Two items measured satisfaction with the leader. Superiors and subordinates rated the squad leader both in terms of their overall satisfaction with him/her and in terms of their satisfaction with the methods the squad leader used to get the job done. Squad leaders rated their perceptions of their subordinates satisfaction, i.e., how satisfied do you think your subordinates are with you as their superior? The response categories ranged from 0 = "very dissatisfied" to 4 = "very satisfied."
3. Extra-effort (OEE) - Four items were used to measure how much extra effort subordinates were willing to put forth in their jobs. Items on this scale were measured on a format ranging from the 0 = "not at all" to 4 = "frequently if not always."

Results

Intercorrelations among MLQ leadership and outcome measures based on subordinates' averaged responses for both the USNA midshipman sample and the Navy fleet sample by Yammarino and Bass (1989) are presented in Table 1. Subordinate scores were averaged across 11, 12, or 13 plebes for each squad leader in the midshipman sample. A multivariate analysis of variance was

performed similar to that described in Yammarino and Bass (1988) which indicated that aggregation was permissible.

As shown in Table 1, many of the results (including the alpha coefficients) for the midshipmen leaders were similar to those found in the Navy fleet sample. There were, however, exceptions. First, the averages on the measures of transformational leadership were somewhat higher in the midshipman sample than in the fleet sample. This was also the case for three of the four measures of transactional leadership. Both passive management-by-exception and non-leadership measures were lower in the midshipman sample. The standard deviations on all the measures were smaller in the midshipman sample.

Second, in terms of the correlations, while most of the patterns were very similar in the two samples, there were noticeable differences for the leadership measure of active management-by-exception. In the fleet sample, active management-by-exception was correlated with measures of transformational and transactional leadership. In the midshipman sample this was not the case. These results more closely parallel those found in other settings (e.g., Bass & Avolio, 1989), but may have been due to the low internal consistency of the active management-by-exception scale in the midshipman sample. The relationships among effectiveness, satisfaction, and the leadership measures were very comparable for the two groups. Extra effort, however, correlated more highly with most of the other measures in the midshipman sample than it did in the fleet sample.

Insert Table 1 about here

With respect to the predictor and performance variables, descriptive information and intercorrelations are presented in Table 2. Again, in general, the averages and intercorrelations for the predictor variables were very similar in the two samples. Recommendations correlated negatively with SAT scores and career retention in both samples, as did ECAs. Engineering science interest correlated positively with career retention in both samples.

The relationships between selection measures (predictors) and USNA success measures indicate that SAT scores and high school class rank were good predictors of both academic and military performance in both samples. This is not surprising because these measures contain substantial academic components.

Also presented in Table 2 are correlations among the USNA performance measures. Performance grades correlated with both academic and military performance measures, as well as with conduct, demerits (negatively), and leadership positions held. Correlations of these measures with selection measures were minimal. Academic and military performance, however, correlated significantly with performance grade, conduct, and demerits (negatively).

Insert Table 2 about here

The correlations among leadership, predictor, performance, and outcome variables are presented in Table 3. The selection predictors were generally unrelated to measures of leadership in both samples. The USNA success measures were not significantly correlated with any of the

transformational leadership measures in the midshipman sample. This is somewhat surprising because military performance correlated with charismatic and inspirational leadership, and performance measures (e.g., fitness reports and recommendations for early promotion) were correlated with transformational leadership measures in the fleet sample (Yammarino & Bass, 1989).

In the midshipman sample, performance grades correlated negatively with passive management-by-exception but not significantly with charisma nor inspirational leadership. Conduct grades correlated with charisma, inspirational leadership, and contingent rewards. Note the high correlations between the number of varsity sports the midshipman had played and transformational and transactional leadership. Those who played varsity sports were seen as more charismatic, individually considerate, inspirational, and intellectually stimulating, and also more transactional in terms of rewards and promises than those who did not play varsity sports.

Three sets of correlations are presented in the lowest section of Table 3 for the MLQ outcome measures in relation to the leadership measures. The numbers in the first row for each relationship are the correlations among leadership and outcomes based on plebe reports in the midshipman sample. Correlations between subordinate reports of leader behavior and subordinate reported outcome measures in the fleet sample are shown in the second row for each relationship. Correlations between the superior reports of the outcome measures (i.e., their estimates of effectiveness and satisfaction with the squad leader) and the subordinate (plebe) reports of leader behavior in the midshipman sample are shown in the third row for each relationship. The correlations among subordinate reports of leadership and

outcomes were quite large in magnitude for most measures in both samples. However, the plebe reports of the squad leaders' management-by-exception and their estimates of satisfaction, effectiveness, and effort were unrelated. This is in contrast to the fleet sample where active management-by-exception and outcome measures were highly correlated. In the midshipman sample, superior reports of effectiveness and satisfaction were correlated with subordinate reports of transformational leadership but not transactional leadership. (Consistent with the fleet data, though not presented in this table, academic major did not correlate with leadership nor with MLQ outcome measures.)

Insert Table 3 about here

Intercorrelations among leadership and MLQ outcomes as perceived by superiors (Company Officers), USNA success measures, and performance measures are presented in Table 4. The relationships between MLQ leadership and outcome measures as rated by superiors were very similar to the correlations based on subordinates' ratings for these measures, lending support to the validity of these relationships. Moreover, academic performance correlated with individualized consideration and intellectual stimulation as rated by superiors; military performance and performance grade were associated with charisma, intellectual stimulation, and inspirational leadership as rated by superiors. These measures were not correlated with transactional leadership. Transactional leadership as perceived by superiors correlated with leadership positions held. The remaining performance measures, including varsity sports, did not correlate

with the leadership measures.

Insert Table 4 about here

In sum, consistent with the fleet data, these findings indicate that the selection measures used at USNA were not related to transformational nor transactional leadership for midshipmen leaders. Although performance measures used in the fleet (i.e., performance evaluation and early promotion) were related to leadership behavior in the fleet, performance measures used at the Academy (e.g., academic performance, military performance, leadership positions held) were not related to leadership behavior among midshipmen. In the midshipman sample, the correlations increased in magnitude when performance measures and superior perceptions of leadership were examined instead of subordinates' perceptions.

Discussion

The first question of interest in the current study was whether or not transformational leaders could be identified among midshipmen. The subordinate responses indicate that, in fact, transformational leadership was exhibited among the midshipmen squad leaders. Average scores on the transformational measures were somewhat higher in the midshipman sample than in the fleet sample. This difference cannot be interpreted directly, however, because the subordinate population during plebe summer is a new, inexperienced group and plebe summer is a unique leadership situation. Given the nature of plebe summer, where intense supervision and a good deal of active management-by-exception takes place (fondly referred to at USNA as "screaming"), the low passive management-by-exception and laissez-faire

leadership scores were not surprising.

In general, the correlations between the transformational leadership measures and the other leadership and outcome measures were very similar in the fleet and midshipman samples. This lends support to the validity of the fleet relationships (Yammarino & Bass, 1989). A few notable differences in relationships across samples occurred. First, active management-by-exception was not correlated with transformational leadership and outcomes in the midshipman sample, but was related to those measures in the fleet sample. This is likely due to the low reliability of the active management-by-exception measure in the midshipman sample or the differing nature of active management-by-exception in the two situations. At USNA feedback about poor performance is generally harsh and loud. This type of feedback in the fleet may be much more tactful and seen by subordinates as beneficial to their performance.

In terms of the MLQ outcome and leadership measures, again, correlations were similar in both samples with the exception of those for extra effort. Extra effort correlated highly with transformational leadership measures in the midshipman sample, while the correlations were substantially lower in the fleet sample. The higher correlations in the midshipman sample are consistent with previous work with combat officers and industrial managers (e.g., Bass, 1985; Bass & Avolio, 1989).

An additional question of interest in this study was the relationship between pre-Academy selection measures and measures of success at the Academy. The association between academic selection measures such as SAT scores and academic success at the Academy were positive in both the fleet and midshipman samples. In addition, academic performance was correlated

with recommendations from high school officials and the career retention measure in the midshipman sample. Those who perform better academically scored higher on the career retention scale which predicts their likelihood of remaining at USNA as well as in the service beyond their minimum service obligation.

The academic predictors also correlated with the military performance measure in both samples. This can be explained in that a substantial portion of the military performance measure includes grades in professional courses and on professional competency exams. The correlation between academic success and military performance is .70 in both the fleet and midshipman samples. Military performance at USNA cannot be separated completely from academic performance. Given that USNA is an academic institution this is to be expected.

The selection measures used by USNA to predict USNA success did not predict transformational leadership in the fleet nor midshipman samples. This is not surprising because the Candidate Multiple was not designed for that purpose (e.g., Alf, et al., 1988). While academic success is an important criteria that cannot be overlooked, if USNA is really interested in "future Navy leaders," they may want to expand the applicant screening procedure to incorporate some assessment of leadership. Granted, this is not an easy task and must be undertaken with great care. Perhaps leadership potential could be included as a selection criterion without compromising existing criteria such as attrition and academic capability.

Also of interest in the present study were the correlations among the USNA predictors (selection and success) and among the USNA performance measures. Performance grades correlated significantly with academic

performance as well as conduct. Again, performance grades within the company are made, in part, on the basis of academic performance. Leadership positions held by the midshipmen were predicted by extracurricular activities in high school, career retention, and scores on engineering science interest. While this suggests that these predictor variables may be predicting leadership potential, a look at the relationships between leadership positions held and transformational leadership as seen by subordinates suggested a different interpretation.

Specifically, individuals selected to hold leadership positions at the Academy are selected primarily by the Company Officers on the basis of their academics and their conduct. There was no relationship between the level of leadership position held and subordinates' perceptions of transformational leadership. However, there was a relationship between level of position held and Company Officers' evaluations of transactional leadership. It appears that transformational qualities are not forming the basis of selection into the midshipman leadership structure.

The lack of relationship between transformational leadership and leadership positions held at the Academy may be explained, in part, by that other qualities of midshipmen which are taking priority over transformational abilities. Academics play a large part in striper selection because holding a leadership position USNA is time-consuming. Those who are not doing well academically do not have the time to fulfill extra leadership duties. Conduct and obeying the rules is also important in striper selection. But, it appears also that if Company Officers are looking at any leadership behavior as relevant to holding striper positions, they are attending to transactional qualities rather than transformational

qualities.

Playing a varsity sport correlated positively with high school officials' recommendations and negatively with career retention. Varsity athletes also were rated as more transformational than their non-athlete counterparts. This information suggests that high school officials who recommend candidates on the basis of physical abilities, interpersonal relations, and extracurricular activities, may be responding to the transformational qualities in the applicant.

Based on informal conversations with midshipmen varsity athletes, the explanation of the relationship between varsity sports and transformational leadership was not one suggesting halo effects. In fact, at USNA varsity athletes are not particularly respected by their peers because their athletic status "gets them out of a lot" (military drill, watchstanding, etc.). The athletes believed that they learned about teamwork, cooperation, consideration for others, and putting the team before oneself as part of playing a varsity sport -- all qualities of a transformational leader. They also felt that, in general, varsity athletes tended to have more interests beyond USNA and academics than the non-varsity athletes. Athletes had more opportunities to interact outside the Academy which may have helped them mature into better leaders. While this explanation requires empirical testing, it is compatible with the contention that transformational leadership skills can be acquired or improved with training (e.g., Bass & Avolio, 1989).

The relationships between leadership and USNA success and performance measures were a surprise. It appears that the midshipmen performance evaluation system may not be emphasizing transformational leadership, at

least as seen by subordinates. The negative relationship between performance grades and passive management-by-exception found among the midshipmen suggests that this dimension is not valued in the USNA environment. This finding is consistent with the Hater and Bass (1988) study of managers.

While subordinate perceptions of transformational leadership were unrelated to performance grades, the relationships between transformational leadership as seen by Company Officers and performance grades were positive. A number of explanations are possible. Perhaps subordinates during plebe summer are not familiar enough with their leaders to make the best evaluations of their transformational qualities. This is unlikely, however, because most sources believed that the plebes were more familiar with squad leader performance than were the Company Officers. Or, perhaps Company Officers see or value different leadership behaviors than do subordinates. If the second explanation is correct, it may be useful for Company Officers to get some feedback from subordinates in assessing leadership behavior or military performance of midshipmen leaders. Clearly, transformational leadership as perceived by those being led is what will entice a follower to work harder. Perhaps the performance evaluation systems both at USNA and in the fleet could benefit from some subordinate input about leader behavior.

A conditional caveat is necessary at this point. This study of midshipmen plebe summer squad leaders is not necessarily representative of "everyday leadership" at USNA. Plebe summer, as mentioned earlier, is a unique leadership situation. It was selected for study because the leadership is intense, the subordinates know little about their leader other

than his/her leadership style, and, as the transformational scores suggest, a good deal of transformational leadership can emerge. Despite these points, the performance evaluation and selection criteria used at USNA were not predictive of transformational leadership as measured in this study. The performance measures were also only modestly related to leadership behavior. If USNA's mission is to train the Navy's future leaders and if transformational leaders are "true military leaders," perhaps these systems should be modified.

In conclusion, transformational leadership is exhibited in young leaders and its correlates are similar to those in more experienced leadership positions. In addition, transformational leadership is related to superior evaluations of effectiveness and subordinate evaluations of extra effort and satisfaction with the leader. It also appears that certain life experiences may enhance some transformational behaviors. Before major changes in USNA procedures are suggested, additional research is warranted. First, transformational leadership should be studied within the existing midshipmen leadership structure. Second, work should be done to assess potential measures predictive of effective leadership such as personality variables or cognitive thinking styles. Third, to verify the applicability of a transformational model of leadership in the U.S. Navy as demonstrated in Yammarino and Bass (1989), work should be expanded to additional Navy communities such as air and submarines. Fourth, to assess further the appropriateness of aggregating multiple rater responses about a focal leader and to demonstrate the degree of agreement among the ratings, more rigorous testing procedures developed by Dansereau, Alutto, and Yammarino (1984) should be used in future research. Nevertheless, given the

results of the present study and prior work, the potential to identify and better train leaders is present and may have great benefits to the Navy of the 90's.

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TABLE 1

Intercorrelations Among Leadership and Outcome Measures
Based on Subordinates' Averaged Responses: USNA Midshipmen and Navy Fleet

MLQ Measures	α	M	SD	LCH	LIC	LIS	LIL	LCP	LCR	LM-A	LM-P	LLF	OEE	OEF
Transformational Charisma (LCH)	.92 (.94)	2.80 (2.40)	.62 (1.16)											
Individualized Consideration(LIC)	.77 (.86)	2.51 (2.50)	.47 (.91)	.78 (.80)										
Intellectual Stimulation(LIS)	.81 (.88)	2.64 (2.47)	.39 (.88)	.82 (.78)	.76 (.71)									
Inspirational Leadership (LIL)	.77 (.82)	2.69 (2.26)	.41 (.83)	.88 (.84)	.86 (.83)	.83 (.83)								
Transactional Contingent Rewards (Promises)(LCP)	.72 (.67)	1.96 (1.61)	.50 (.92)	.64 (.61)	.77 (.62)	.65 (.60)	.68 (.67)							
Contingent Rewards (Rewards) (LCR)	.90 (.91)	2.46 (2.38)	.60 (1.10)	.77 (.72)	.82 (.80)	.73 (.65)	.78 (.78)	.74 (.61)						
Mgmt-by-Exception (Active)(LM-A)	.36 (.71)	3.43 (2.65)	.17 (.85)	-.04 (.46)	-.23 (.41)	-.02 (.52)	-.09 (.52)	-.18 (.39)	-.12 (.42)					
Mgmt-by-Exception (Passive) (LM-P)	.65 (.59)	1.71 (2.26)	.35 (.82)	-.13 (.14)	.12 (.18)	-.03 (.10)	-.02 (.17)	.31 (.16)	.13 (.16)	-.04 (.04)				
Non-Leadership Laissez Faire(LLF)	.57 (.63)	.93 (1.31)	.25 (.67)	-.58 (-.57)	-.41 (-.54)	-.50 (-.67)	-.51 (-.56)	-.23 (-.33)	-.41 (-.45)	-.15 (-.57)	.41 (.15)			
Outcomes														
Extra Effort (OEE)	.64 (.81)	3.21 (3.24)	.17 (.69)	.41 (.17)	.34 (.27)	.41 (.24)	.38 (.22)	.29 (.04)	.40 (.22)	.12 (.25)	-.07 (.03)	-.45 (.35)		
Effectiveness(OEF)	.83 (.89)	2.92 (2.75)	.42 (.94)	.91 (.87)	.74 (.73)	.79 (.74)	.84 (.79)	.68 (.48)	.76 (.66)	.01 (.50)	-.06 (.11)	-.54 (-.60)	.47 (.27)	
Satisfaction (OST)	.87 (.92)	2.82 (3.07)	.66 (1.22)	.92 (.89)	.79 (.81)	.77 (.73)	.85 (.82)	.66 (.53)	.88 (.72)	-.08 (.44)	-.01 (.19)	-.52 (-.55)	.39 (.22)	.90 (.86)

NOTE: navy fleet data (Yammarino and Bass, 1989) are presented in parenthesis for comparison purposes.
 $r \geq .16$, $p \leq .05$ for midshipmen; $r \geq .14$, $p \leq .05$ for fleet.

TABLE 2

Descriptive Statistics and Intercorrelations Among Predictors and Performance:
USNA Midshipmen and Navy Fleet

USNA SELECTION	M	SD	PVA	PMA	PHS	PRC	PEX	PCR	PES	PAP	PMP	OPG	OCD	ODM	OVS	OEA
Verbal Aptitude (PVA)	549.55 (578.15)	78.41 (80.49)														
Math Aptitude (PMA)	635.72 (650.16)	59.21 (68.32)	.55 (.45)													
H.S. Class Rank (PHS)	591.30 (570.46)	145.79 (111.31)	.19 (.07)	.28 (.19)												
Recommendations (PRC)	879.43 (851.60)	101.85 (108.54)	-.33 (-.16)	.30 (.06)	-.24 (.06)											
Extracurricular Activities (PEX)	538.99 (519.21)	74.22 (68.20)	-.23 (-.29)	-.10 (.19)	.17 (-.07)	.06 (.21)										
Career Retention (PCR)	527.59 (517.17)	97.87 (89.68)	.19 (-.09)	.14 (.08)	.19 (.09)	-.20 (-.08)	-.34 (-.06)									
Engineering Science (PES)	506.74 (493.20)	100.40 (90.24)	-.20 (-.11)	.01 (.17)	.13 (.11)	.09 (.04)	-.05 (-.19)	.20 (.22)								
USNA SUCCESS																
Academic Performance (PAP)	278.58 (261.57)	44.38 (40.82)	.32 (.33)	.28 (.31)	.43 (.42)	-.23 (.10)	.12 (-.12)	.24 (.01)	.00 (-.02)							
Military Performance (PMP)	318.45 (292.39)	31.62 (35.96)	.23 (.18)	.25 (.24)	.38 (.35)	-.07 (.17)	.14 (.00)	.08 (-.04)	.01 (.05)	.70 (.70)						
USNA PERFORMANCE																
Performance Grade (OPG)	3.27	.49	.02	.00	.09	-.01	.17	.10	-.07	.46	.72					
Conduct (OCD)	3.92	.18	.00	-.13	.02	.22	.05	-.01	.04	.17	.33	.29				
Demerits (ODM)	3.45	5.17	.00	.10	-.06	-.15	.03	.00	-.04	-.22	-.38	-.25	-.75			
Varsity Sports (OVS)	.39	.54	-.15	-.01	-.03	.22	.21	-.22	-.11	.06	.10	.06	.15	-.07		
Extra Activities (OEA)	1.45	.89	.21	.15	.09	-.18	-.14	.11	-.07	.10	.06	.05	.00	.08	-.10	
Leader Positions	3.29	1.70	-.04	-.12	.07	.10	.22	.29	.21	-.05	.06	.29	.15	.05	-.15	-.05

NOTE: Navy fleet data (Yammarino and Bass, 1989) are presented in parenthesis for comparison purposes.
 $r \geq .16$, $p \leq .05$ for midshipmen; $r \geq .14$, $p \leq .05$ for fleet.

TABLE 3

Intercorrelations Among Leadership, Predictors, Performance, and Outcomes:
USNA Midshipmen and Navy Fleet

Subordinate Ratings of Leadership

Measure	LCH	LIC	LIS	LIL	LCP	LCR	LM-A	LM-P	LLF
USNA SELECTION									
Verbal Aptitude (PVA)	.01 (-.08)	.11 (-.07)	.04 (-.13)	.04 (-.10)	.03 (-.06)	.12 (-.04)	-.08 (-.05)	.05 (-.02)	.01 (.01)
Math Aptitude (PMA)	-.04 (-.08)	.10 (.04)	.07 (-.09)	.02 (-.08)	.10 (-.12)	.03 (.01)	-.01 (-.10)	.08 (.03)	-.03 (.07)
H. S. Class Rank (PHS)	.09 (.10)	-.09 (.06)	-.07 (.03)	-.14 (.08)	-.01 (.06)	.02 (.09)	.01 (.05)	.11 (-.03)	.15 (.01)
Recommendations (PRC)	-.05 (.12)	.00 (.06)	-.05 (.04)	.02 (.11)	.14 (.07)	.07 (.06)	.16 (.11)	.15 (-.02)	-.02 (-.06)
Extracurricular Activities (PEX)	.11 (.06)	.07 (.10)	.04 (.07)	.08 (.06)	.13 (.07)	.19 (.11)	-.03 (.15)	.07 (.09)	-.01 (-.05)
Career Retention (PCR)	-.06 (-.02)	-.10 (-.01)	-.02 (.00)	-.14 (-.03)	-.04 (-.06)	-.12 (-.07)	-.04 (-.04)	-.09 (-.10)	-.06 (-.13)
Engineering Science (PES)	-.04 (.00)	-.15 (-.06)	-.13 (-.06)	-.16 (-.11)	-.07 (-.12)	-.07 (-.06)	.12 (-.08)	.13 (-.03)	-.03 (.08)
USNA SUCCESS									
Academic Performance (PAP)	.05 (.07)	.03 (.02)	.05 (.05)	.03 (.09)	-.03 (.05)	.11 (.11)	-.01 (.14)	-.09 (-.11)	-.04 (-.06)
Military Performance (PMP)	.06 (.18)	.05 (.06)	.04 (.10)	.05 (.14)	.02 (.03)	.06 (.12)	.00 (.13)	.00 (-.10)	-.01 (-.06)
USNA PERFORMANCE									
Performance Grade (OPG)	.10	-.01	.10	.06	-.05	-.04	.14	-.19	-.12
Conduct (OCD)	.19	.14	.11	.20	.11	.17	.13	.05	-.15
Demerits (ODM)	-.01	-.01	-.06	-.00	.01	-.04	-.08	-.07	-.06
Varsity Sports (OVS)	.27	.33	.22	.30	.34	.30	-.10	.07	-.18
Extra Activities (OEA)	-.06	-.13	-.08	-.06	-.05	-.15	.02	-.15	-.03
Leader Positions (STR)	.02	-.02	-.01	-.07	.00	.02	.06	-.15	-.03
OUTCOMES (As perceived by subordinates)									
Extra Effort (OEE)	.41 (.17) [.06]	.34 (.27) [-.03]	.46 (.24) [-.02]	.38 (.22) [.02]	.29 (.04) [.05]	.40 (.22) [.13]	.12 (.25) [.08]	-.07 (.03) [.03]	-.45 (-.35) [-.09]
Effectiveness (OEF)	.91 (.87) [.24]	.75 (.73) [.24]	.79 (.74) [.23]	.84 (.79) [.31]	.68 (.48) [.12]	.75 (.66) [.16]	.01 (.50) [.08]	-.07 (.11) [-.14]	-.54 (-.60) [-.08]
Satisfaction (OST)	.92 (.89) [.21]	.80 (.81) [.24]	.78 (.73) [.23]	.85 (.82) [.28]	.66 (.53) [.16]	.78 (.72) [.17]	-.07 (.44) [.08]	-.02 (.19) [-.04]	-.53 (-.55) [-.03]

NOTE: Navy fleet data (Yammarino and Bass, 1989) are presented in parenthesis for comparison purposes. The correlations among subordinate-rated leadership and superior-rated outcomes in the midshipman sample are shown in brackets.
 $r \geq .16$, $p \leq .05$ for midshipmen; $r \geq .14$, $p \leq .05$ for fleet.

TABLE 4

Correlations Among USMA Measures of Success and Performance and Leadership as Perceived by Superiors (Company Officers)

Company Officer Ratings of Midshipmen Squad Leaders

	LCH	LIC	LIS	LIL	LCP	LCR	LM-A	LM-P	LIP
M	3.32	3.07	2.86	2.85	2.37	2.86	3.24	1.55	.69
SD	.74	.68	.57	.58	.68	.74	.47	.79	.51
<u>USMA SUCCESS</u>									
Academic Perf. (PAP)	.12	.18	.23	.13	.11	.08	.07	.03	.15
Military Perf. (PMP)	.24	.16	.36	.22	.13	.08	.04	.06	.04
<u>USMA PERFORMANCE</u>									
Performance Grade (OPG)	.23	.15	.27	.24	.18	.06	-.10	.00	.03
Conduct (OCD)	.08	-.01	.12	.11	.09	-.09	.01	.15	.03
Demerits (ODM)	.08	-.01	.11	-.16	-.02	.09	.15	-.17	.01
Varsity Sports (OVS)	.06	.08	-.02	-.06	-.02	.03	-.08	-.17	-.21
Extra Activities (OEA)	-.11	.08	.02	.01	-.06	.06	-.04	.16	.11
Leadership Positions (STR)	.10	.06	.06	.08	.22	.18	.21	.03	-.01
<u>OUTCOMES (as perceived by superiors)</u>									
Extra Effort (C-OEE)	.45	.19	.45	.46	.37	.40	.22	.10	-.08
Effectiveness (C-OEF)	.81	.65	.67	.71	.47	.49	.02	-.08	-.42
Satisfaction (C-OST)	.80	.59	.63	.63	.28	.53	-.15	-.05	-.35

NOTE: $r \geq .18$, $p \leq .05$

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